

DoD Global Influenza Surveillance Program: *Influenza Surveillance at AFIOH*

Overall Lab Surveillance

Total Specimens Collected

- Collected in Week 48: **40**
- Season Total: **395**

Newly identified Influenza

Newly identified; Cumulative

- Influenza A: **5** ; **11**
- Influenza B: **0** ; **1**

Newly subtyped influenza

Newly identified; Cumulative

- Influenza A/H3N2: **0** ; **4**
- Influenza B/HongKong: **0** ; **0**
- Influenza B/Shanghai: **0** ; **0**

Sentinel Site Lab Surveillance

Total Specimens Collected

- Collected in Week 48: **31**
- Season Total: **293**

Newly identified influenza

Newly identified; Cumulative

- Influenza A: **3** ; **9**
- Influenza B: **0** ; **0**

Newly subtyped influenza

Newly identified; Cumulative

- Influenza A/H3N2: **0** ; **4**
- Influenza B/HongKong: **0** ; **0**
- Influenza B/Shanghai: **0** ; **0**

Research Lab Surveillance

Total Specimens Collected

- Collected in Week 48: **0**
- Season Total: **28**

Newly identified Influenza

Newly identified; Cumulative

- Influenza A: **0** ; **0**
- Influenza B: **0** ; **1**

Newly subtyped influenza

Newly identified; Cumulative

- Influenza A/H3N2: **0** ; **0**
- Influenza B/HongKong: **0** ; **0**
- Influenza B/Shanghai: **0** ; **0**

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Week 48

27 November - 03 December 2005

Current WHO Phase of Pandemic Alert: **PHASE 3**

***Phase 3** is defined as a new influenza virus subtype causing disease in humans, but no or very limited human-to-human transmission has been identified.

Source: [WHO](#)

Influenza Identified

Locations of Identified Influenza

02 October to Present

Influenza Specimens: **12**

Influenza A: **11**

Influenza B: **1**



Influenza Subtype

Locations of identified Influenza Subtypes

Influenza A

A (H1N1): **0**

A (H3N2): **4**

Not typed: **7**

Influenza B

B (99): **0**

B (01): **0**

Not typed: **1**



AFIOH Reporting Procedures

The information in this report describes:

- Overall Laboratory Surveillance** (i.e., all respiratory specimens submitted to and processed by the AFIOH laboratory);
- Sentinel Site Laboratory Surveillance** (i.e., respiratory specimens submitted by the 39 sentinel sites using the protocol of selecting 6-10 influenza-like illness [ILI] specimens per week); and
- Overseas Research Laboratory Surveillance** (i.e., respiratory specimens submitted by two of the DoD overseas medical research laboratories [AFRIMS and NMRC-D] and the CHPPM-W sites).

Overall Laboratory Surveillance

Sites submitting specimens for respiratory testing

Week 48. 16 sites collected specimens during Week 48 (11 sentinel, 5 non-sentinel) and were received by AFIOH at the time of this report. See map to the right.

Season submission. Since 02 October 2005, a total of 42 sites have submitted specimens to the AFIOH laboratory.

Forty-eight percent (n=193) of the specimens were collected from OCONUS sites and 51% (n=202) were from CONUS sites.



Overall Laboratory Results

Week 48 overview

- **Specimens "collected" during Week 48.** 40 specimens were collected and received at the AFIOH laboratory at the time of this report. 15% (n=6) of the specimens collected during Week 48 have a completed result. Of these, 67% (n=4) were positive for influenza A and 33% (n=2) were positive for RSV.
- **Specimens "received" during Week 48.** 76 specimens were received at the AFIOH laboratory during Week 48 and are undergoing processing at this time. The specimens received during Week 48 were collected from Weeks 45-48 (2% collected in Week 45, 17% in Week 46, 28% in Week 47, and 53% in Week 48).

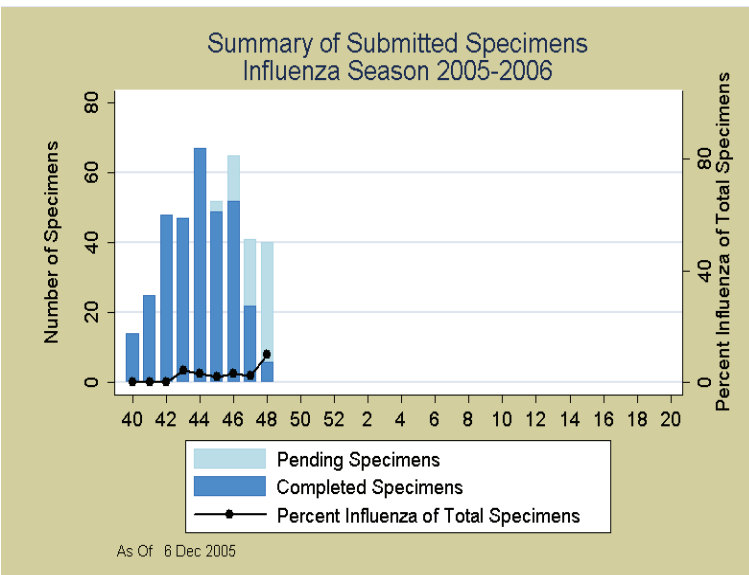
Please view Graphs 1-4 for an overview of results by week collected and Table 1 for an overview of results by Area of Responsibility.

Season overview. Since 02 October 2005 to date, a total of 395 specimens were collected and 82% (n=322) have a completed result. Of the specimens with completed results, 68% (n=270) were negative and 13% (n=52) were positive for a respiratory virus. Of these, 21% (n=11) were influenza A, 2% (n=1) was influenza B; 15% (n=8) were adenovirus, 37% (n=19) were parainfluenza, 15% (n=8) were enterovirus, 6% (n=3) were HSV; and 4% (n=2) were RSV.

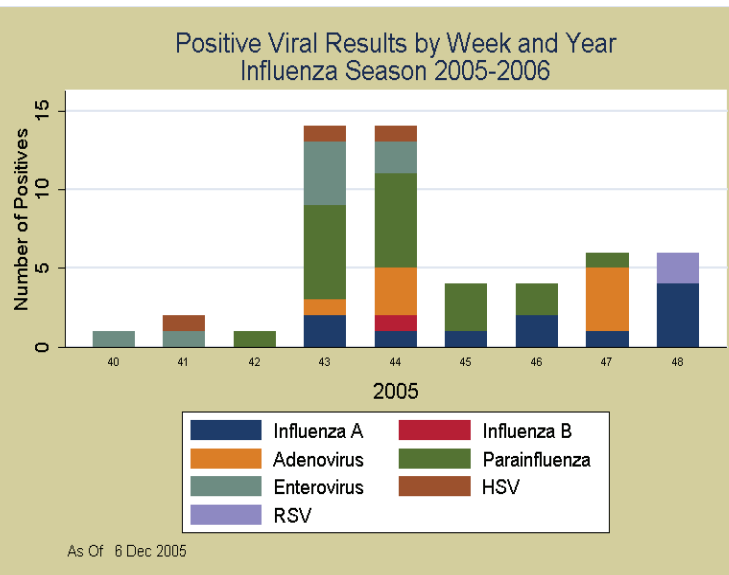
Influenza. Of the specimens with completed results, 4.4% were positive for an influenza virus (4% influenza A; 0.4% influenza B). Seventy-five percent (n=9) of the influenza positive specimens were collected from sentinel sites, 17% (n=2) were from non-sentinel sites, and 8% (n=1) were from an overseas research site.

Subtyping. A total of 33% (n=4) of the influenza isolates have been subtyped (4 influenza A/H3N2) to date.

Graph 1.



Graph 2.



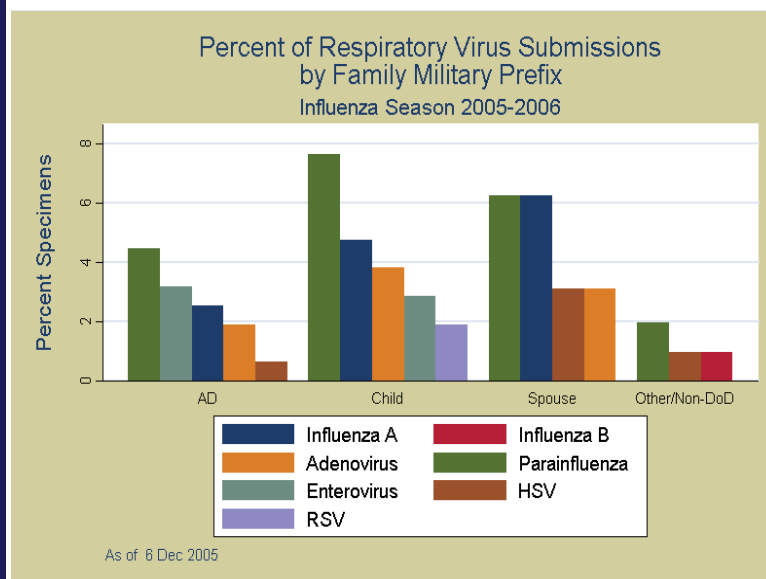
Overall Laboratory Results: Demographics

Of the patients with completed specimen results, 48% (n=156) were active duty members, 32% (n=104) were children, 10% (n=32) were spouses, and 10% (n=30) were classified as other or non-DoD beneficiary (Graphs 3-4).

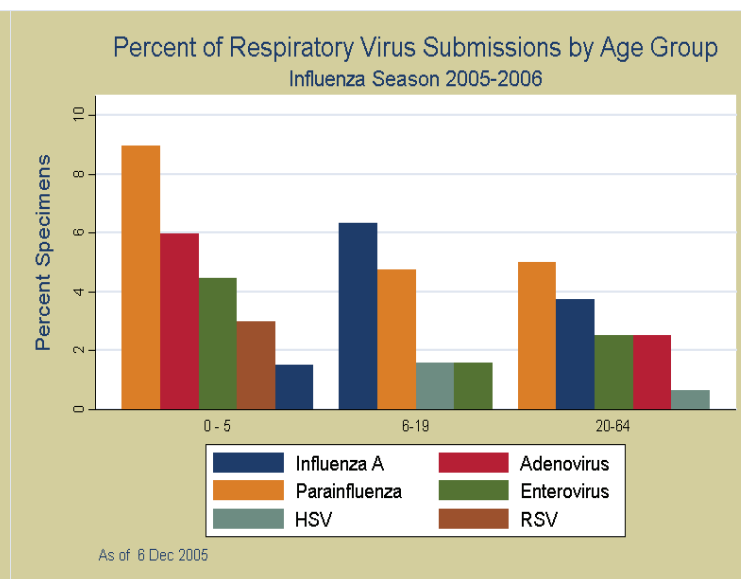
Influenza. Patients having a positive influenza isolate were 33% (n=4) active duty members, 42% (n=5) children, 17% (n=2) spouses, and 8% (n=1) non-DoD beneficiary (influenza B positive). Two (17%) of the influenza positive patients were related (mother age 29 and son age 1). Vaccine history is currently unavailable for these two patients, as specimens were collected from a non-sentinel site.

RSV. RSV was identified in two patients in the 0-5 age group (3 and 6 months of age). Both specimens were collected during Week 48; patients were not related and identified in two separate locations.

Graph 3.



Graph 4.



The majority (51%) of specimens received were collected from the NORTHCOM Area of Responsibility (AOR). Influenza positive specimens were collected from NORTHCOM (75%), PACOM (17%), and OTHER (8%). See Table 1. for an overview.

Table 1. Laboratory Results by Military Command, Current Week and Season Totals.

Result	Area of Responsibility										ALL SITES
	CENTCOM		EUCOM		NORTHCOM		PACOM		OTHER		
	Week	Season	Week	Season	Week	Season	Week	Season	Week	Season	
Influenza A					4	9		2			11
Influenza B										1	1
Adenovirus				2		4		2			8
Parainfluenza				7		11				1	19
Enterovirus				4		2		2			8
HSV		1		1						1	3
RSV					2	2					2
Negative		12		36		135		62		25	270
Pending		0	3	10	28	40	3	23		0	73
TOTAL RECEIVED	0	13	3	60	34	203	3	91	0	28	395

Please note: "OTHER" military command describes those specimens submitted by DoD overseas research laboratories and CHPPM-W sites.

Sentinel Site Laboratory Surveillance

Thirty-nine sentinel sites are requested to collect 6-10 specimens each week from patients meeting the ILI case definition (**fever $\geq 100.5^{\circ}\text{F}$ and cough or sore throat**) and complete the "Influenza Surveillance Questionnaire". Two sentinel sites, Tripler Army Medical Center (AMC), located in Hawaii, and Landstuhl Regional Medical Center (RMC), located in Germany, send selected influenza positive specimens to AFIOH to be further characterized. These sites are major medical centers and have established laboratories capable of detecting influenza. Their involvement in the DoD-wide program is valued due to their mission and geographical location.



Sites submitting specimens for respiratory testing

Week 48. 11 sentinel sites collected specimens during Week 48 (see map to the right).

Season submission. Since 02 October 2005, a total of 24 sentinel sites have collectively submitted 189 specimens.

Sixty-one percent (n=121) of the specimens were collected from OCONUS sentinel sites and 39% (n=79) were from CONUS sentinel sites.



Sentinel Site Laboratory Results

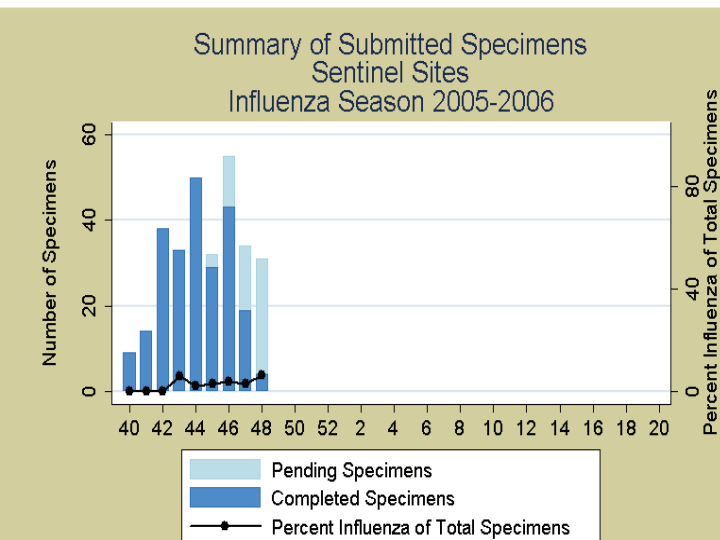
Week 48 overview. 31 specimens were collected during Week 48 and received by the AFIOH laboratory at the time of this report. 13% (n=4) of the specimens have a completed result. Please view Table 2. and Graphs 5-6 below for a visual overview.

Season overview. Since 02 October 2005, a total of 293 specimens were collected and 79% (n=232) have a completed result at this time. Of these, 83% (n=192) were negative and 14% (n=40) were positive for a respiratory virus. Of the total specimens having a completed result, 4% were positive for influenza A.

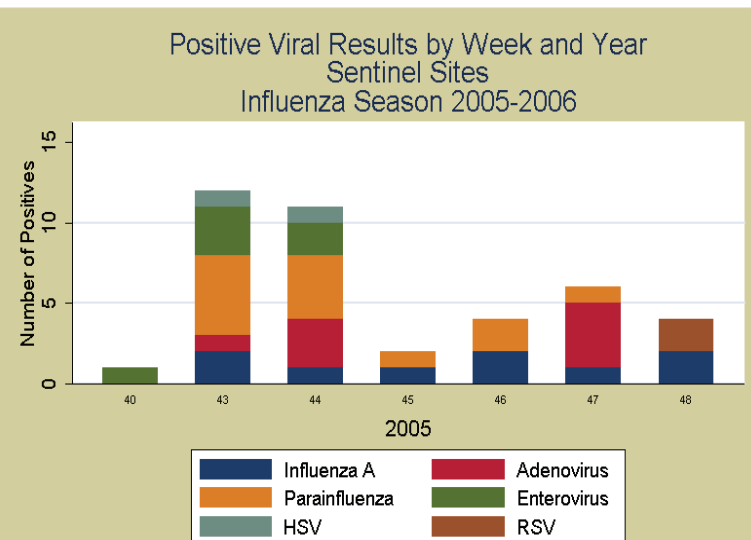
Subtyping: 44% (n=4) of the influenza isolates have been subtyped (4 influenza A/H3N2) to date.

Graph 5.

Graph 6.



As Of 6 Dec 2005



As Of 6 Dec 2005

Table 2. Sentinel Site Laboratory Results by Area of Responsibility

Result	Area of Responsibility								
	CENTCOM		EUCOM		NORTHCOM		PACOM		ALL SITES
	Week	Season	Week	Season	Week	Season	Week	Season	
Influenza A					2	7		2	9
Influenza B									0
Adenovirus				2		4		2	8
Parainfluenza				7		6			13
Enterovirus				4				2	6
HSV		1		1					2
RSV					2	2			2
Negative		12		36		82		62	192
Pending			3	10	21	28	3	23	61
TOTAL RECEIVED	0	13	3	60	25	129	3	91	293

Influenza Overview: Demographic Data*

Demographics	Newly Identified		Cumulative (Season)	
	A	B	A	B
Age (years)				
0-5	0	0	0	0
6-19	1	0	4	0
20-64	2	0	5	0
65 +	0	0	0	0
Unknown	0	0	0	0
OVERALL TOTALS	3	0	9	0

Family Prefix Status	Newly Identified		Cumulative (Season)	
	A	B	A	B
Military member/Sponsor	1	0	4	0
Spouse	1	0	1	0
Child	1	0	4	0
Other/Unknown	0	0	0	0
OVERALL TOTALS	3	0	9	0

Demographics	Newly Identified		Cumulative (Season)	
	A	B	A	B
Vaccination Status				
Injection	0	0	0	0
Nasal Spray (FluMist)	0	0	0	0
Not Vaccinated	1	0	4	0
Unknown	2	0	5	0
OVERALL TOTALS	3	0	9	0

Hospitalization Status	Newly Identified		Cumulative (Season)	
	A	B	A	B
Hospitalized	0	0	0	0
Quarters	0	0	0	0
OVERALL TOTALS	0	0	0	0

*Describes sentinel site data only

Continued on page 6

Demographics	Newly Identified		Cumulative (Season)	
	A	B	A	B
Sentinel Sites (by MAJCOM)				
CENTCOM				
Al Udeid AB, Qatar	0	0	0	0
Arifjan	0	0	0	0
Balad AB	0	0	0	0
Camp Buehring	0	0	0	0
Manas AB	0	0	0	0
AETC				
Maxwell AFB, AL	0	0	0	0
Sheppard AFB, TX	0	0	0	0
AMC				
Andrews AFB, MD	0	0	0	0
McGuire AFB/FT. Dix, NJ	0	0	0	0
Scott AFB, IL	0	0	0	0
Travis AFB, CA	0	0	0	0
USAFE				
Aviano AB, Italy	0	0	0	0
Incirlik AB, Turkey	0	0	0	0
RAF Lakenheath, UK	0	0	0	0
Ramstein AB, Germany	0	0	0	0
USAF A				
US Air Force Academy, CO	2	0	6	0
PACAF				
Andersen AFB, Guam	0	0	2	0
Elmendorf AFB, AK	0	0	0	0
Kadena AB, Japan	0	0	0	0
Kunsan AB, Korea	0	0	0	0
Misawa AB, Japan	0	0	0	0
Osan AB, Korea	0	0	0	0
Yokota AB, Japan	0	0	0	0
NAVY				
BMC Sasebo, Japan	0	0	0	0
NAB Little Creek, VA	0	0	0	0
NACC Groton, CT	0	0	0	0
NH Bethesda, MD	0	0	0	0
NH Bremerton, WA	0	0	0	0
NH Guam	0	0	0	0
NH Okinawa, Japan	0	0	0	0
NH Pearl Harbor/Hickham AFB, HI	0	0	0	0
NH Sigonella, Italy	0	0	0	0
NH Yokosuka, Japan	0	0	0	0
NMC San Diego, CA	1	0	1	0
ARMY				
Ft Drum, NY	0	0	0	0
Landstuhl RMC, Germany	0	0	0	0
Tripler AMC, HI	0	0	0	0
COAST GUARD				
Ketchikan, AK	0	0	0	0
OVERALL SENTINEL TOTALS	3	0	9	0

Overseas Medical Research Laboratory Surveillance

Specimens are batched for shipments and therefore we do not receive specimens on a weekly or monthly basis.

Sites submitting specimens for respiratory testing

Week 48. At this time, the AFIOH laboratory has not received specimens collected during **Week 48** from the DoD overseas research laboratories or CHPPM-W sites.

Season submission. Since 02 October 2005, the AFIOH laboratory received specimens from one CHPPM-W site that collected specimens from local residents in Honduras.



Laboratory Results

Week 48 overview. 0 specimens were collected during Week 48 and received at AFIOH at the time of this report.

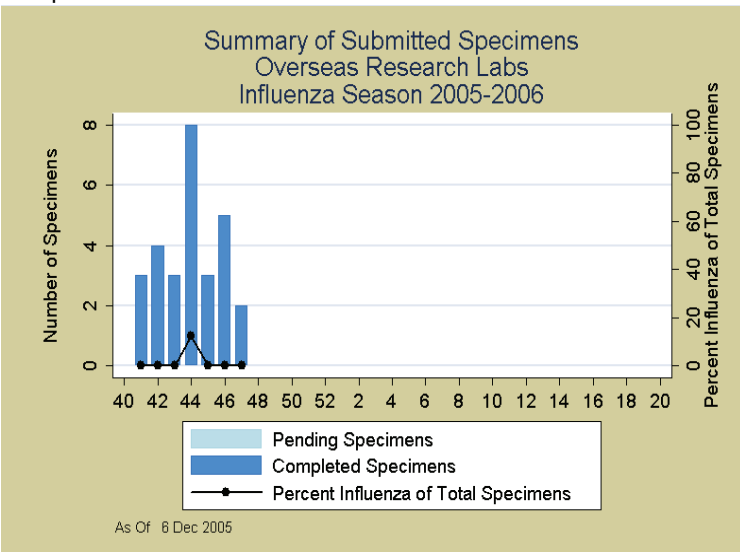
Season overview. Since 02 October 2005, 28 specimens were collected and all have a completed result. 89% (n=25) were negative and 11% (n=3) were positive for a respiratory virus. 4% (n=1) of the total specimens collected were positive for influenza B. Please view Graphs 7-8 below for a visual overview.

Subtyping: Influenza B subtype is pending at this time.

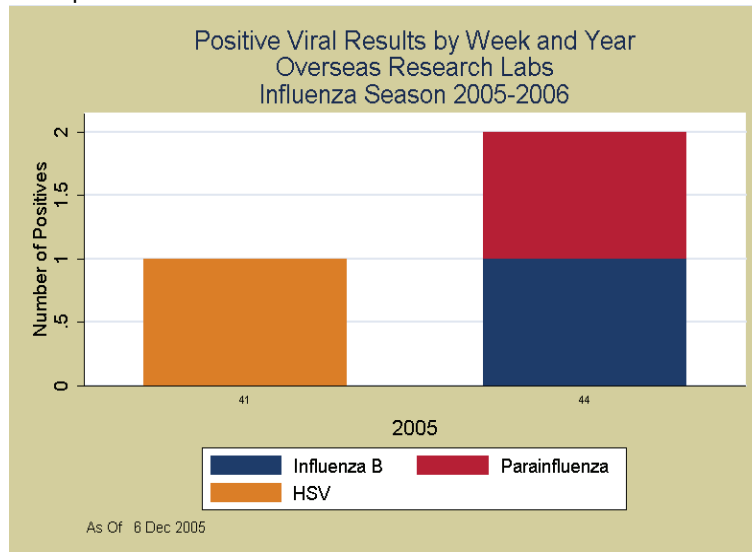
Table 3. Overseas Research Laboratory Results by SITE

Result	OVERSEAS MEDICAL RESEARCH FACILITY						ALL SITES
	AFRIMS		NMRC-D		CHPPM-W		
	Week	Season	Week	Season	Week	Season	
Influenza A							0
Influenza B						1	1
Adenovirus							0
Parainfluenza						1	1
Enterovirus							0
HSV						1	1
RSV							0
Negative						25	25
Pending							0
TOTAL RECEIVED	0	0	0	0	0	28	28

Graph 7.



Graph 8.



ILI Surveillance

A summary of ILI is expected in the near future that includes denominator data.

Additional Influenza Surveillance: *Army MEDCENS*

The Army performs influenza surveillance at 6 Army Medical Center (MEDCEN) locations (Dwight David Eisenhower Army Medical Center [DDEAMC], Walter Reed Army Medical Center [WRAMC], Brooke Army Medical Center [BAMC], Madigan Army Medical Center [MAMC], Tripler Army Medical Center [TAMC], and Landstuhl Regional Medical Center [LRMC]), two of which are included in AFIOH's sentinel site surveillance network (please see map to right).



The Army MEDCEN sites are major medical centers equipped with the capability of detecting respiratory viruses, including influenza. It is important to note that the methodology varies at each site (i.e., testing procedures include direct fluorescent-antibody [DFA], various rapid antigen tests, culture, and polymerase chain reaction [PCR]) and reporting is routine, but varies from site to site (i.e., weekly, bi-weekly, monthly). The information reported and shared with AFIOH describes results from the individual MEDCENS and does not include demographic information at this time.

Week 47 overview. 32 specimens were collected and tested during Week 47 (47% [n=15] tested by LRMC; 53% (n=17) from BAMC). 9% (n=3) were positive for a respiratory virus (1 RSV; 1 parainfluenza; 1 adenovirus).

Season overview: Since 02 October 2005, 564 specimens were collected and tested. Eighty-three percent (n=470) were negative and 17% (n=94) were positive for a respiratory virus (3 influenza A; 27 RSV; 18 parainfluenza; and 46 adenovirus). Of the specimens collected and tested, 0.5% were positive for an influenza virus.

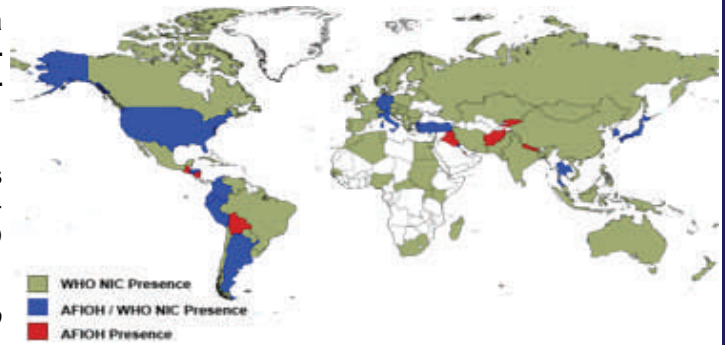
Subtyping: No data to report.

Contributions to National and Global Influenza Surveillance

The map to the right provides an illustration of how AFIOH data augments the current influenza surveillance network. **It is important to note that although a country is highlighted, surveillance may be limited in scope.**

AFIOH provides surveillance data from 21 countries - 8 countries (Bolivia, El Salvador, Guatemala, Iraq, Kyrgyzstan, Nepal, Nicaragua, and Qatar) are not otherwise included in the current WHO network.

Please note: Map describes countries submitting specimens to AFIOH and does not include all DoD contributing countries (i.e., NAMRU-2 and NAMRU-3 surveillance described on page 12).



Data Sharing

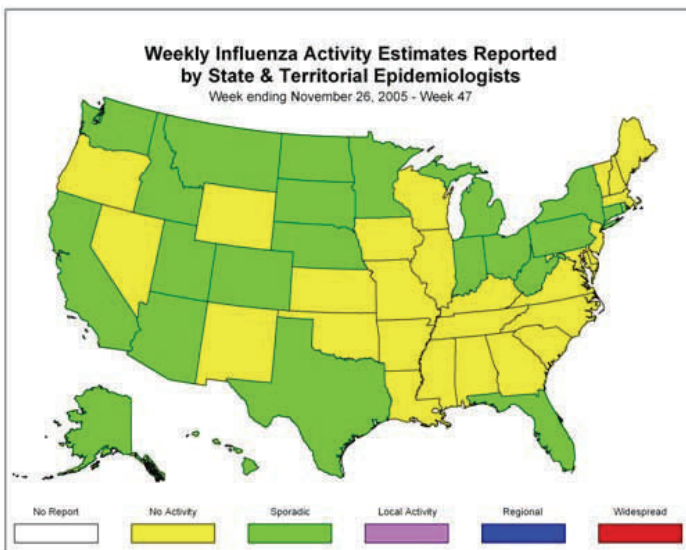
Each week, AFIOH electronically reports de-identified program data to CDC using the Public Health Laboratory Information System (PHLIS). Data are used in WHO's global influenza surveillance and CDC's United States influenza surveillance. Additionally, weekly data from Texas military sites are reported to the Texas Department of State Health Services (TDSHS).

CDC / WHO Influenza Surveillance

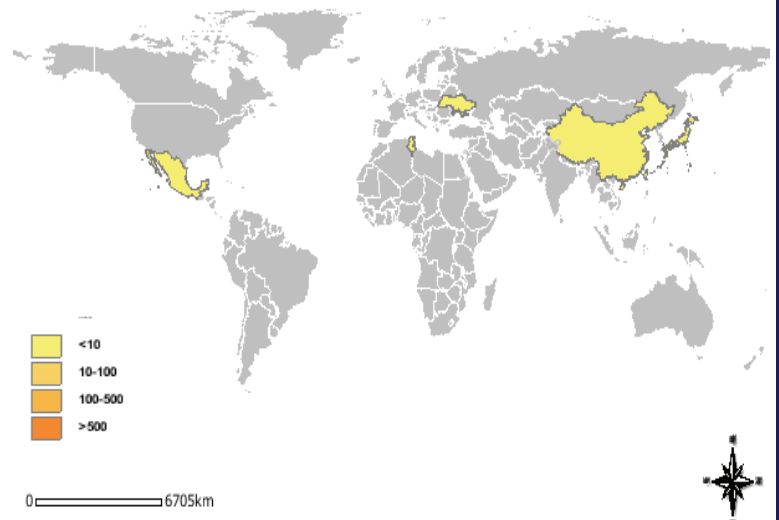
Surveillance summaries for CDC and WHO were gathered from references on 06 December 2005.

Both CDC and WHO reported a low influenza activity level (1.8% for CDC during Week 47). Please see the influenza activity maps below.

CDC U.S. Influenza Surveillance Map¹



WHO International Influenza Surveillance Map²



Detailed WHO and/or CDC Influenza Surveillance Information:

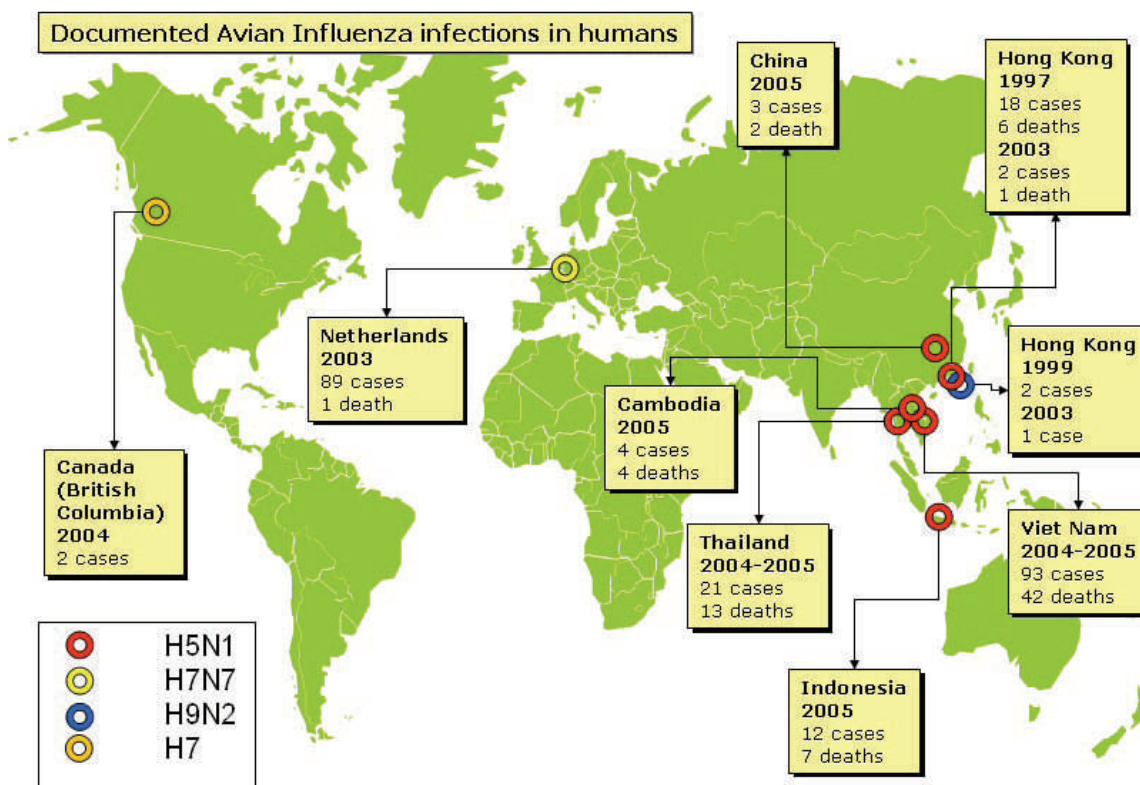
1. National Influenza Activity (CDC): <http://www.cdc.gov/ncidod/diseases/flu/weeklychoice.htm>
2. International Influenza Activity (WHO): <http://gamapserver.who.int/GlobalAtlas/home.asp>

Influenza News

Human Avian Influenza. 133 cases of lab-confirmed avian influenza (51.5% case fatality rate). Table below was gathered from the EUROPA website on 06 December 2005. Reference: http://europa.eu.int/comm/health/ph_threats/com/Influenza/ai_current_en.htm

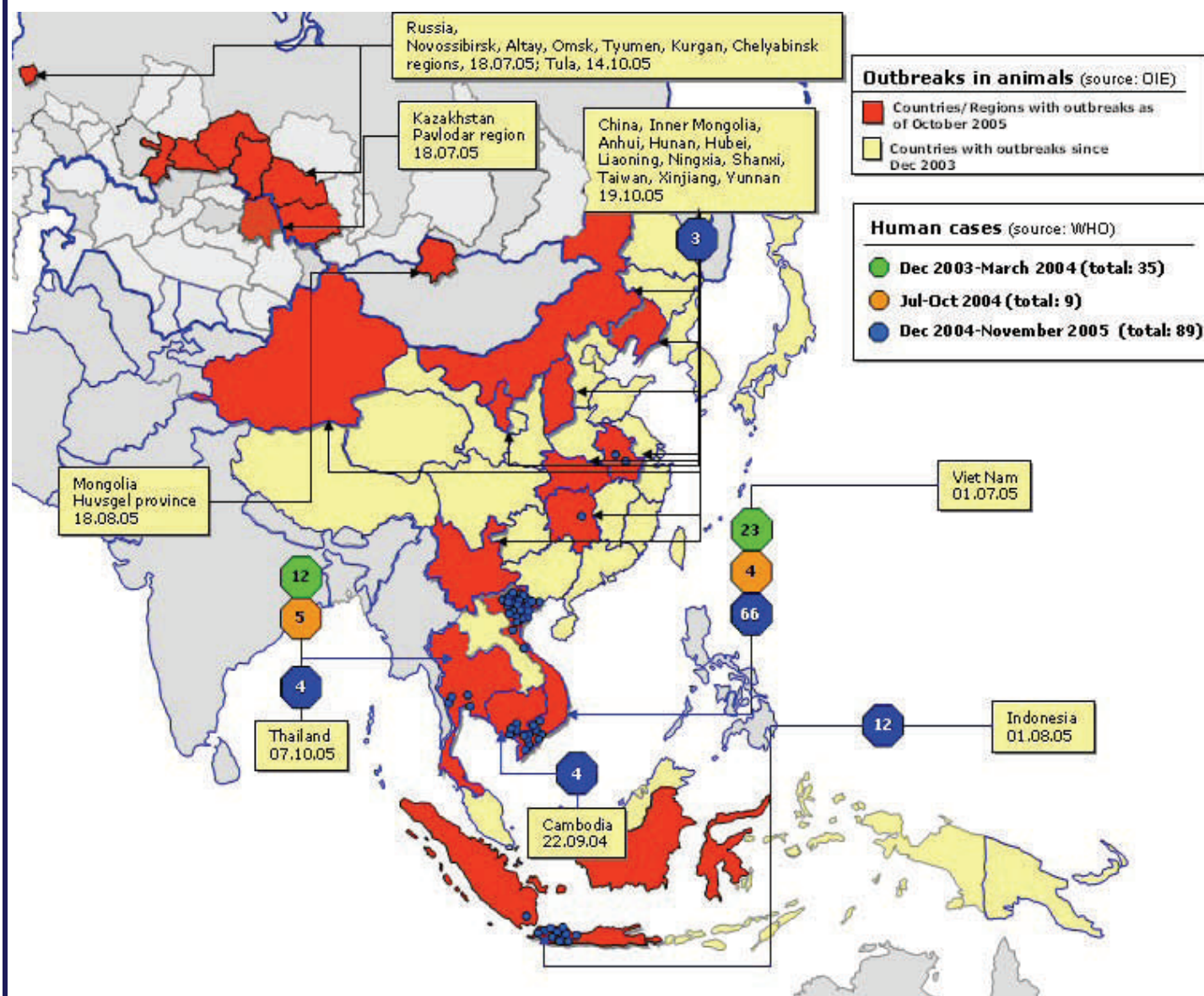
Current Situation of Avian Influenza and human cases related to the H5 virus subtype (as of 2 December 2005)								
Country	Virus subtype identified	Number of confirmed human cases						Comments
		Cases			Deaths			
		26.12.03 - 10.03.04	19.07.04 - 08.10.04	16.12.04 - to date	26.12.03 - 10.03.04	19.07.04 - 08.10.04	16.12.04 - to date	
Cambodia	H5N1	0	0	4	0	0	4	No new case reported since 4 May.
China (People's Rep. of)	H5N1	0	0	3	0	0	2	One further fatal case confirmed in Anhui province. Onset of symptoms was on 11 November and death on 22 November. Outbreaks in poultry in nine provinces since mid-October.
Indonesia	H5N1	0	0	12	0	0	7	One new case reported on 29 November in West Java Province, probably linked to exposure to infected domestic birds. Symptoms onset on 6 November and hospitalization on 16 November, remaining in stable conditions. H5N1 endemic in poultry and widespread.
Thailand	H5N1	12	5	4	8	4	1	One additional case reported with onset of symptoms on 1 November, currently hospitalised. Several outbreaks in poultry reported to OIE on 3 November in three provinces.
Viet Nam	H5N1	23	4	66	16	4	22	One new case confirmed with onset of symptoms on 14 November. The case is now recovering
	Total	133			68			Number of cases includes number of deaths. All cases are laboratory-confirmed.

The following map was gathered on 06 December 2005 at http://europa.eu.int/comm/health/ph_threats/com/Influenza/images/influenza.jpg. Please visit the Europa website for detailed information (http://europa.eu.int/comm/health/ph_threats/com/Influenza/avian_influenza_en.htm).



Data as of: 2.12.2005

Outbreaks of Avian Influenza and locations of confirmed Human Avian Influenza. The following map displays countries that have reported confirmed and suspected outbreaks of H5N1. Sources of data: World Organization for Animal Health, WHO, and the Food and Agriculture Organization of the United Nations (FAO). Reference: http://europa.eu.int/comm/health/ph_threats/com/Influenza/ai_recent_en.htm



DoD Global Influenza Surveillance Program Background

DoD-GEIS Influenza Surveillance Network

The DoD Global Influenza Surveillance Program was established by the Global Emerging Infections Surveillance and Response System (GEIS) in 1997. It involves a unique network of influenza surveillance efforts from the Air Force (global influenza surveillance established in 1976), the Navy (recruit adenovirus surveillance established in 1996), and the DoD overseas medical research facilities (i.e., the Naval Medical Research Unit located in Cairo, Egypt [NAMRU-2] and the Naval Medical Research Unit located in Jakarta, Indonesia [NAMRU-3]).

AFIOH Influenza Surveillance Network

In 1976, the US Air Force Medical Service began conducting routine lab-based surveillance of influenza throughout the world. Efforts were expanded when it became part of the DoD-GEIS influenza surveillance network in 1997. AFIOH manages the Air Force surveillance program that includes global influenza surveillance among DoD beneficiaries at 39 tri-service sentinel sites (including deployed locations in Iraq, Qatar, and Kyrgyzstan), several non-sentinel sites, two DoD overseas medical research laboratories (the Armed Forces Research Institute of Medical Sciences located in Bangkok, Thailand [AFRIMS], and the U.S. Naval Medical Research Center-Detachment [NMRC-D] located in Lima, Peru) that collect specimens from local residents in Nepal, Thailand, Argentina, Bolivia, Ecuador, Peru, and Colombia, and the US Army Center for Health Promotion and Preventive Medicine-West (CHPPM-W), that collect specimens from local residents in El Salvador, Guatemala, and Honduras.

Processing Methods

Specimens are processed in BSL-2 conditions (BSL-3 available) and tested for influenza, parainfluenza, adenovirus, enterovirus, herpes simplex virus (HSV), and respiratory syncytial virus (RSV). Specimens are held up to 14 days before a negative result is given. All influenza isolates are typed as A or B and a portion are subtyped using hemagglutination-inhibition (HI) or polymerase chain reaction (PCR) procedures. A portion of these isolates undergo molecular sequencing.

2005-2006 Trivalent Influenza Vaccine Composition

Northern Hemisphere

- A/New Caledonia/20/99-like (H1N1)
- A/California/7/2004-like (H3N2)
- B/Shanghai/361/2002-like

2006 Southern Hemisphere

- A/New Caledonia/20/99-like (H1N1)
- A/California/7/2004-like (H3N2)*
- B/Malaysia/2506/2004

**The currently used vaccine virus is A/New York/55/2004*

This report was prepared on **06 December 2005** by Angela Owens. For an expanded view of the information in this report, visit our website at <https://gumbo.brooks.af.mil/pestilence/Influenza/>. Also available on our website is a list of previous weekly surveillance reports, program information for sentinel sites (including an educational briefing and instruction pamphlets for clinic staff), and an overview of historical data.

Please visit the [DoD-GEIS website](#) for an overview of influenza surveillance at all collaborating centers.



AFIOH Contact Information

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Laboratory Services: Phone (210) 536-8383; DSN 240-8383

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